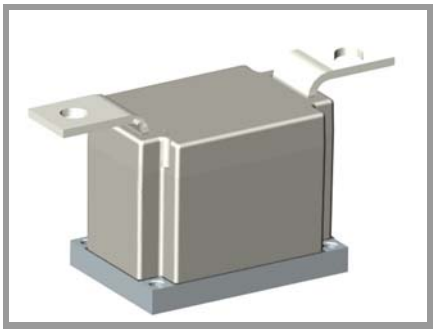
SKET 800/18G H4



SEMIPACK® 6

Thyristor Modules

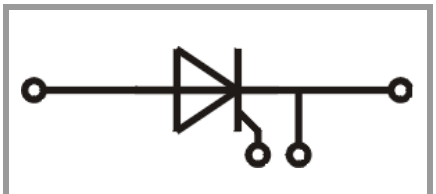
SKET 800/18G H4

Features

- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate
- UL recognized, file no. E 63 532

Typical Applications*

- DC motor control (e. g. for machine tools)
- Temperature control (e. g. for ovens, chemical processes)
- Softstart application



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Absolute Maximum Ratings

Symbol	Conditions		Values	Unit
Chip				
$I_{T(AV)}$	sinus 180°	T_c = 85 °C	808	A
		T_c = 100 °C	597	A
I_{TSM}	10 ms	T_j = 25 °C	37000	A
		T_j = 130 °C	32000	A
i^2t	10 ms	T_j = 25 °C	6845000	A^2s
		T_j = 130 °C	5120000	A^2s
V_{RSM}			1900	V
V_{RRM}			1800	V
V_{DRM}			1800	V
$(di/dt)_{cr}$	T_j = 130 °C		200	A/µs
$(dv/dt)_{cr}$	T_j = 130 °C		2000	V/µs
T_j			-40 ... 130	°C
Module				
T_{stg}			-40 ... 125	°C
V_{isol}	a.c.; 50 Hz; r.m.s.	1 min	4000	V
		1 s	4800	V

Characteristics

Symbol	Conditions		min.	typ.	max.	Unit
Chip						
V_T	T_j = 25 °C, I_T = 3000 A			1.45	1.55	V
$V_{T(TO)}$	T_j = 130 °C			0.78	0.83	V
r_T	T_j = 130 °C			0.22	0.25	mΩ
I_{DD};I_{RD}	T_j = 130 °C, V_{DD} = V_{DRM}; V_{RD} = V_{RRM}				150	mA
t_{gd}	T_j = 25 °C, I_G = 1 A, di_G/dt = 1 A/µs			1		µs
t_{gr}	V_D = 0.67 * V_{DRM}			2		µs
t_q	T_j = 130 °C			200		µs
I_H	T_j = 25 °C			1000	2000	mA
I_L	T_j = 25 °C, R_G = 33 Ω			1500	2500	mA
V_{GT}	T_j = 25 °C, d.c.		3			V
I_{GT}	T_j = 25 °C, d.c.		300			mA
V_{GD}	T_j = 130 °C, d.c.				0.25	V
I_{GD}	T_j = 130 °C, d.c.				10	mA
$R_{th(j-c)}$	continuous DC	per chip			0.0405	K/W
		per module			0.0405	K/W
$R_{th(j-c)}$	sin. 180°	per chip			0.042	K/W
		per module			0.042	K/W
$R_{th(j-c)}$	rec. 120°	per chip			0.043	K/W
		per module			0.043	K/W
Module						
$R_{th(c-s)}$	chip				0.01	K/W
	module				0.01	K/W
M_s	to heatsink M6		5.1		6.9	Nm
M_t	to terminal M12		15.3		20.7	Nm
a					5 * 9,81	m/s^2
w				2150		g

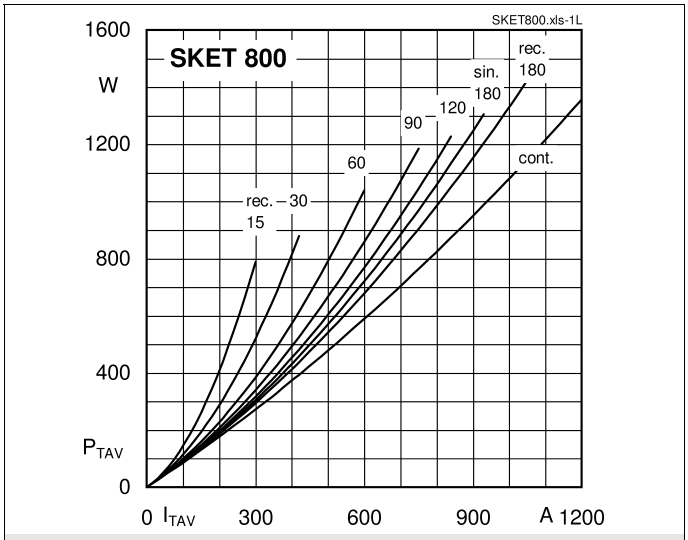


Fig. 1L: Power dissipation per thyristor vs. on-state current

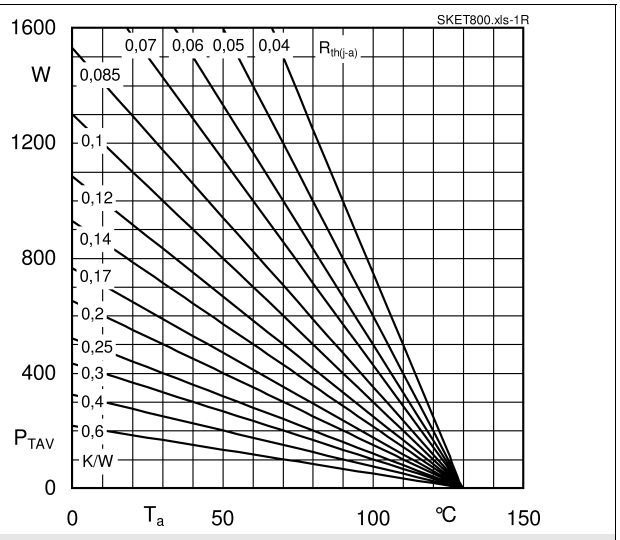


Fig. 1R: Power dissipation per thyristor vs. ambient temperature

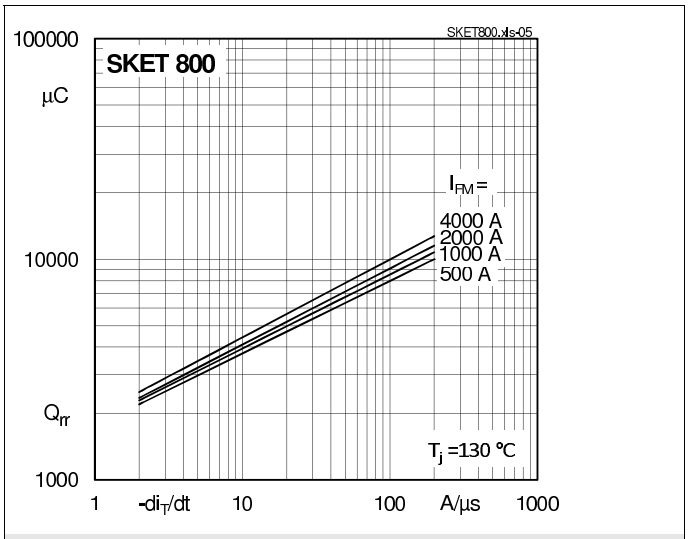


Fig. 5: Recovered charge vs. current decrease

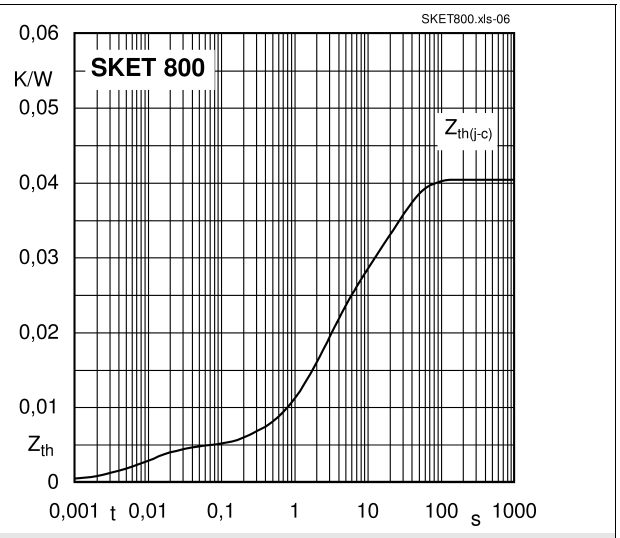


Fig. 6: Transient thermal impedance vs. time

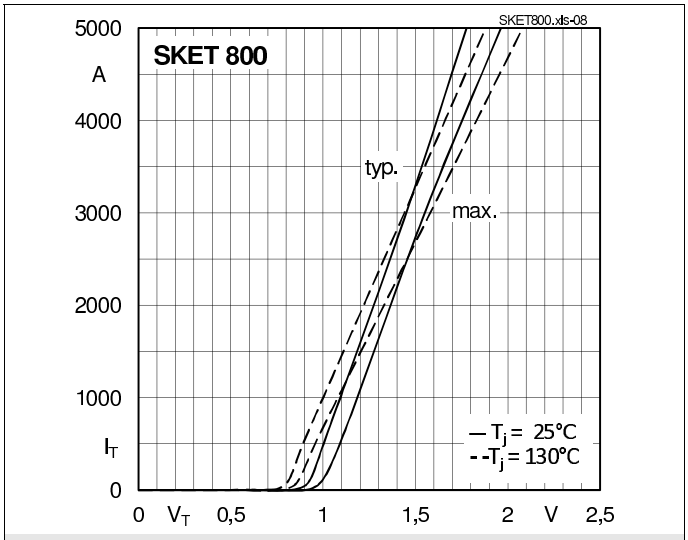


Fig. 7: On-state characteristics

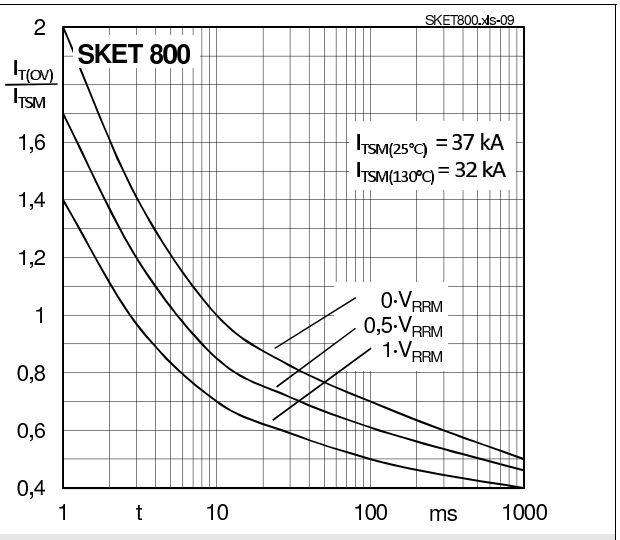


Fig. 8: Surge overload current vs. time

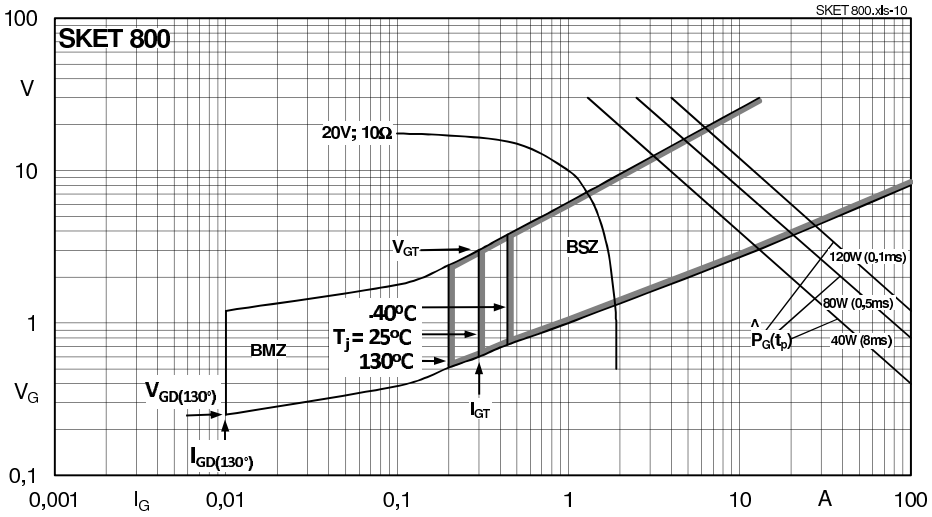
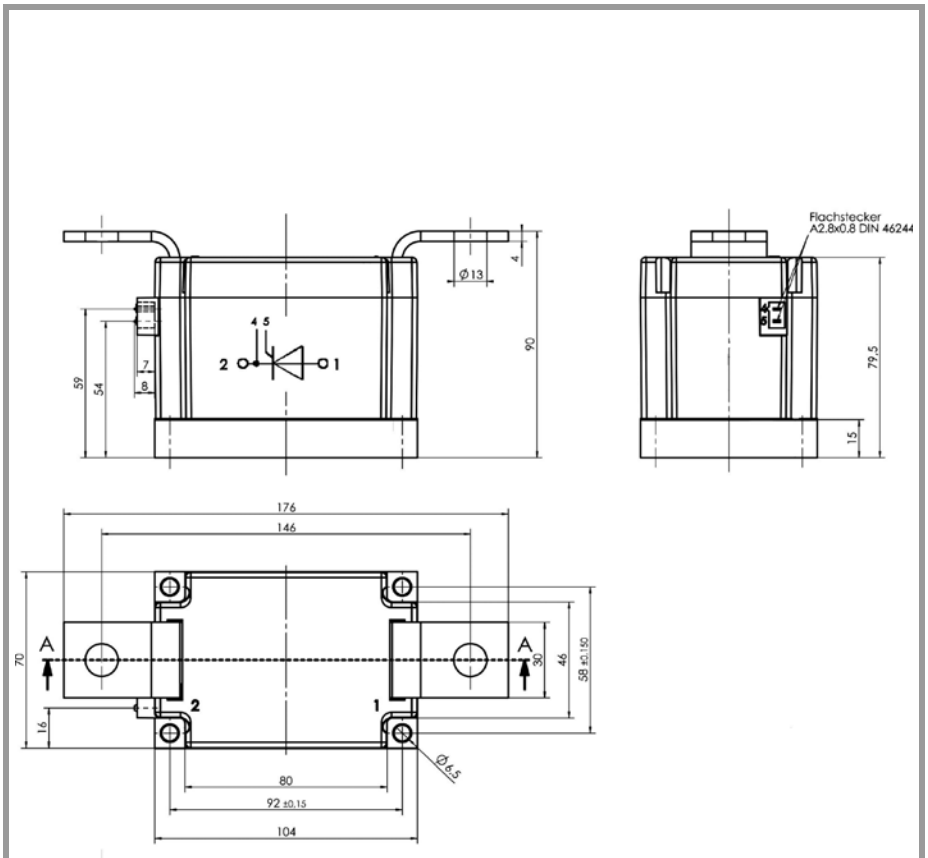


Fig. 9: Gate trigger characteristics



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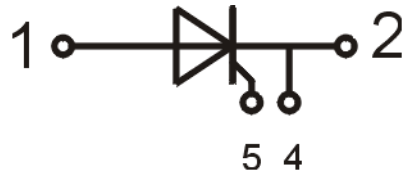

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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our staff.